UNIV. OF MICHIGAN
AUG 15 1951
EAST ENGINEERING
LIBRARY

JOURNAL

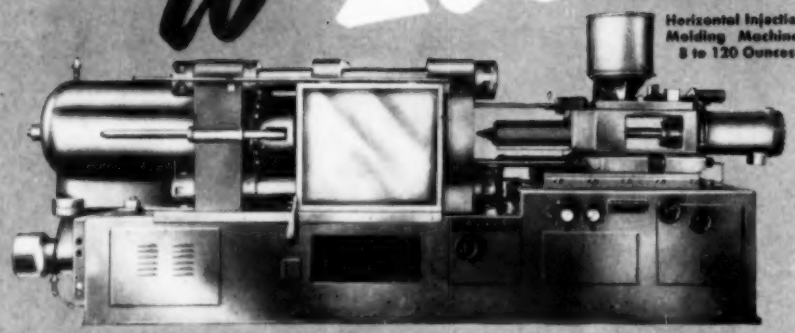
VOLUME 6 NUMBER 3 • MAY 1950

Recording equipment in soundproof lab to test and evaluate plastic records, including some made of Styron (Dow polystyrene). Materials for records are tested for fidelity of reproduction, surface noise at various frequencies, record wear and other general properties pertinent in recording.

PUBLISHED BY THE SOCIETY OF PLASTICS ENGINEERS, INC.

A Complete Line of Plastics Molding Machinery

From 2... to 200 oz.



. . . and, all are obtainable from one source of supply—Watson-Stillman.

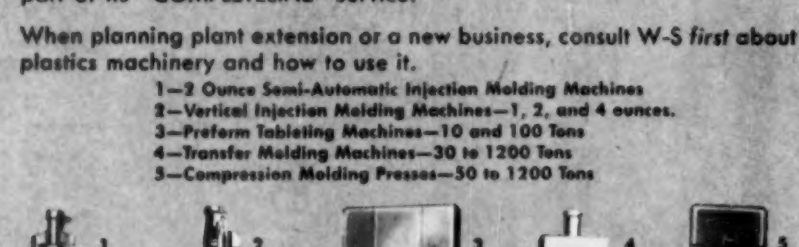
Since the very inception of the industry over 50 years ago, Watson-Stillman engineering ingenuity has paced the industry, year after year, with outstanding plastics molding machinery advancements.

Today, from the W-S "COMPLETELINE" of Injection, Transfer and Compression Molding Machines, you can select a model to fit every production requirement—large and small.

And, W-S offers many additional services. Mold designs, material selection, operation, maintenance, plant layout, are all subjects about which W-S is in a particularly good position to give advice to its clients as a part of its "COMPLETELINE" service.

When planning plant extension or a new business, consult W-S *first* about plastics machinery and how to use it.

1—2 Ounce Semi-Automatic Injection Molding Machines
2—Vertical Injection Molding Machines—1, 2, and 4 ounces.
3—Preform Tableting Machines—10 and 100 Tons
4—Transfer Molding Machines—30 to 1200 Tons
5—Compression Molding Presses—50 to 1200 Tons



HYDRAULIC MACHINERY DIVISION

WATSON-STILLMAN

Established 1848

Factory and Main Office, ROSELLE, NEW JERSEY

Manufactured in Canada by

CANADIAN VICKERS, Ltd., MONTREAL

Foreign Sales Representatives: OMNI PRODUCTS CORP.

460 Fourth Ave. • New York 16, N. Y.

9-K-13C

Personals

Mario Petretti, past president of SPE and present chairman of the publications committee, has announced his resignation from Rogers Plastics Corporation of West Warren, Mass., where he was assistant to the president in charge of manufacturing.

Mr. Ernest Bernard died suddenly on April 14th. He was one of the pioneers in the plastic industry and had operated from Kansas City throughout the southwest for more than twenty years, serving as sales representative for both plastic laminators and molders.

Harold M. Winton has accepted an appointment as director of training for the mechanical goods division, United States Rubber Company. Mr. Winton will supervise all training activities in the division's plants at Fort Wayne, Ind., Passaic, N. J., Bristol, R. I., Philadelphia, Pa., Sandy Hook, Conn., and in 27 sales branches located in principal U. S. cities. He will make his headquarters in the company's general offices at Rockefeller Center, New York.

Bernard N. Larsen has accepted appointment as development engineer and technical service representative for rubber chemicals of Naugatuck Chemical. In his new position with Naugatuck Chemical, he will make his headquarters at Naugatuck, Connecticut.

Richard W. Figgins has joined Sundberg-Ferar's staff as a designer. Mr. Figgins was formerly a stylist with Lustron Corp. and was in the styling department of Chrysler Corp.

Detroit Mold Engineering Company now has a division located in Cleveland, Ohio. It is the D-M-E Corporation at 5473 Lake Court (Near 55th Street and Lake Shore Blvd.).

J. A. Herring has accepted an appointment as technical sales representative for Marvinol vinyl resins in the New York area, it was announced in April. Mr. Herring will make his headquarters at the Naugatuck Chemical's New York office, 254 Fourth Avenue.

CORRECTION

Through an error, Mr. H. G. Schaefer was listed as being a member of the Wolverine Plastics, Inc. instead of the Bakelite Division in the Pin Point Gating report published in the March 1950 issue of the SPE JOURNAL.

JOURNAL

May, 1950

Vol. 6, No. 5

Published monthly except July and August by the
SOCIETY OF PLASTICS ENGINEERS, INC.
409 SECURITY BANK BLDG.
ATHENS, OHIO

Dr. Jesse H. Day, *Editor*

Editorial Advisory Board: MARIO PETRETTI, J. H. DUBOIS, WAYNE PRIBBLE, CARL J. FROSCH

Advertising Representatives: Ortgies & Dillon, 155 East 44th St., New York 17, N. Y.

30 cents a copy **$3.00 a year**

Entered as second-class matter at the Post Office at Athens, Ohio.

INDEX

ARTICLES

PLASTICS IN FABRIC COATING
D. S. Plumb 7

THE PLASTICS LABEL PROBLEM
Frank H. Carman 5

SPE CONSTITUTION CHANGES 4

FEATURES

Q's and A's in Shop Practice 4

SECTION NEWS

Baltimore-Washington 11; Cleveland 10; Connecticut 9; Detroit 11; Eastern New England 12; Golden Gate 12; Miami Valley 12; Newark 12; New York 10; Northwestern Pa., 11; Philadelphia 9; St. Louis 12; Toronto 11; Upper Midwest 12.

Personals 2

ADVERTISERS

ABA Tool and Die Company 6
Parker Stamp Works 9
Miskella Infra-Red Company 8
Art Roll Leaf Stamping Co. 10
Rogers Plastic Corporation 6
Standard Tool Co. 10
Watson-Stillman 2

The Society of Plastics Engineers Journal is not responsible for the views expressed by individual contributors. All material submitted must be received not later than the fifth of the month for publication in that month. Communications should be addressed to Dr. Jesse H. Day, Society of Plastics Engineers Journal, Athens, Ohio.

Plans Ready for 7th Annual National Technical Conference

Plans are already underway for the Seventh Annual National Technical Conference of the Society of Plastics Engineers, Inc. The Conference will be held on January 18-20, 1951, at the Hotel Statler, New York New York, and is being sponsored jointly by the New York and Newark Sections of the Society.

The largest registration in the history of the Society is expected at the Conference which will feature the presentation by leading authorities of technical papers on the latest developments in plastics materials, processing and fabricating techniques, tools and equipment, and applications. Open to all persons in the plastics and related industries, the Conference is expected to attract an attendance of 1,000 technologists drawn from all parts of the United States, Canada, Mexico, and many other foreign countries.

C. Todd Clark, director of the Plastics Dept. of F. Burkart Manufacturing Company, St. Louis, Missouri, is the national president of the SPE and Islyn Thomas, president of Thomas Manufacturing Company, Newark, New Jersey, is national vice president. The joint New York-Newark committee in charge of all arrangements is headed by James T. Growley, Celanese Corp. of America and Stanley Bindman, Gemloid Corporation.

"Since many plastics materials are replacing other materials such as wood, metal, and glass," Mr. Clark stated, "an increasing number of research, design, and product engineers are finding that our Conference affords them an invaluable source of information and reference." Mr. Thomas pointed out that the Conference also provides a forum where plastics engineers can obtain the solutions to problems encountered in their individual plants.

Money for Your Ideas!

Now is the time to begin writing your entry for the SPE Prize Paper Contest. As you know, this is a yearly event, with very worth while prizes and plenty of prestige and publicity for the winners. The only requirements are that you write about some phase of the plastics industry, and that you keep the manuscript to less than 5000 words. All drawings and graphs should be done in india ink on good white paper.

Prize winning articles in the past have been on the chemistry of the coumarone-indenes, the best way to build an injection molding machine, design of plastics articles, to mention a few. The topics are not restricted; write about what you know best, and originality and clarity of presentation are the principal factors in the judging.

Start writing **now**, and submit your entry to the officers of the nearest local SPE section, or to SPE, 409 Security Bank Bldg., Athens, Ohio. Deadline is November 15.

SITUATION OPEN

Plastics Engineer or Chemist

Age 30-40 years. Must have extensive knowledge of polyester resin chemistry, and ability to create new product uses for laminated and molded plastics. Location Midwest. Write to Box 214, SPE Journal, giving full details—education and experience. Include recent snapshot.

IN SHOP PRACTICE

This column will answer all problems whose solutions are not in violation of trade ethics and which do not trespass on restricted techniques.

PROBLEM

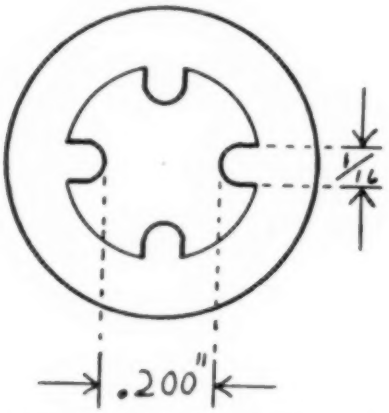
To self tap 4-40 threaded metal parts into a non-threaded polystyrene part.

FACTS:

Insert too expensive; molded thread expensive; tapped thread expensive and not clean. Too much variation in metal parts for smooth hole and shallow self-tapped thread. Plastic cracked or else slipped on the metal parts.

SOLUTION:

Mold hole having four ribs to engage threads and ample clearance between ribs for chips and to allow plastic to cold flow without cracking.



Above dimensions are for rolled threads down to 0.230" and cut threads up to 0.250" O.D.

WE ARE TROUBLED BY:

The poor release of polyeythelene on injection molds.

WHAT CAN WE DO?

A simple test can be made and a simple solution affected for temporary relief. Coat the side of the mold, core, or cavity which is causing the trouble with a normal solution of copper sulphate until the part affected attains a copper color. (This a simple solution of blue vitrol water and a small amount of sulphuric acid). This simple remedy can not be affected on chrome plated cavities or cores.

If the foregoing tends to relieve the situation, and it will, have your mold liquid honed (sand blasted) for speedy trouble-free operation when running polyethylene.

In designing tools for polyethylene, save money on the mold by having your tool maker put on a vapor blast or a so-called liquid honed finish.

HOW WOULD YOU DO IT?

Problem 1

Send your answers to SPE Journal, 409 Security Bank Bldg., Athens, Ohio.

How to mold an open top jar, height 14", width 7", depth 7", wall thickness .020" minimum, .030" maximum for two flat surfaces, 7" sides and bottom thickness, maximum .060". No taper permitted inside or outside.

Jar is to hold potassium hydroxide 40% solution for one year at ambient temperature and for a thirty minute period at 270° F.

Problem 2

Gates in plunger and transfer molds are subject to high abrasive action resulting in frequent down-time and costly upkeep. What is the feasibility of using carboloy steel for these gates to better withstand the wearing action of hot, flowing plastic?

New By-Laws Relate To Membership Dues and To Education Committee

Recently the National Council has made several changes in the By-Laws of our Constitution and By-Laws. The new By-Laws are listed below. These new By-Laws should be kept with your copy of the Constitution and By-Laws.

ARTICLE IV—FEES AND DUES

B-11. The initiation fees and annual dues of the various classes of membership shall be as follows:

	Initiation Fees	Annual Dues
Professional Plastics Engineer	$10.00	$12.00
Member	10.00	12.00
Associate	10.00	12.00
Junior	5.00	7.00
Honorary	none	none
Life	none	none

Foreign Sections shall retain both the initiation fees and dues in full, but they shall be charged five ($5.00) dollars annually, plus postage, in payment for the Official Publication of the Society.

B-16. The treasurer of the Society shall remit to each Geographical Section, five ($5.00) dollars of the annual dues collected from members affiliated with that Section; except in the case of Junior Members, whereby only three dollars and fifty cents ($3.50) shall be remitted; and shall remit one half of the initiation fees collected; except that during the first twelve months following the organization and recognition by the National Council of a New Section, all initiation fees of new members affiliated with that Section shall be remitted to that Section in full.

ARTICLE X — COMMITTEES

Part II—Education Committee

B-82a. The Education Committee shall consist of at least (12) twelve members, half of the members of the Committee to represent the various industrial interests of plastics and at least (6) six shall be educators concerned with plastics in the fields of chemistry, chemical, mechanical and electrical engineering.

The term of appointment shall be for a period of three (3) years and one third (⅓) of the Committee shall be replaced each year. The members shall elect their own chairman who shall serve for three (3) years.

It shall be the duty of the Education Committee to devise and execute, with approval of the Council, ways and means to encourage and improve technical education pertaining to plastics.

It is desirable but not necessary for members of this Committee to be members of the Society.

THE PLASTICS LABEL *Problem*

BY FRANK H. CARMAN

General Manager of
Plastics Materials Manufacturer's Association

Labelling of many consumer products has become so common that we no longer think about it. The identification of textiles and clothing as to wool or rayon content, the directions for laundering of garments, the directions on medicines, cosmetics, and the like; instructions and limitations on electrical appliances, instructions on the can of Simonize, and the label on plywood are only a few and everyone can name many more. Yet, many people feel that we don't do enough informative labelling of plastics and there has been a lot said about it in our industry.

There have been many misconceptions about plastics in the public mind and similar misconceptions about need for the type of labelling that is most adaptable to our products and the real advantage that can be gained by an aggressive program. Actually, if a program of labelling will help us do a better job in the distribution of plastic products, get us a better public reception of plastics as a whole and thereby sell more plastics in the long run, than everyone is for it. Until recently the problem was stated in general terms and little done; everyone seems to be in favor of informative labelling just as everyone will say he is against sin.

The proponents of more extensive use of labelling of plastics could be right! Perhaps the industry has reached the stage that the public is ready to be educated by use of more understandable terms and less mumbo-jumbo and mystery in description of our products. During the last decade these items have come into every day life of the average American; plastics have really become of age. Hundreds of new and useful articles, fabricated of materials with unusual names and properties have appeared in household items, building materials, automobiles, personal accessories, and toys, to name only a few. In recent years there has even been a decline in Sunday supplement articles alluding to an all plastic automobile or a plastic house.

Today over 24 different types of plastics engineered to meet a wide variety of applications are available. When you speak of plastics, you are speaking of types of materials that differ more widely than all the metals, wood and rubber. Some materials now in use are only three to five years old and no one company manufactures more than a small number of the total now in use. Just to orient ourselves on the magnitude and how the industry has grown in the last ten years, I might mention that the 1949 production of all synthetic resins and plastics was in the neighborhood of 786,000 tons as compared to about 125,000 tons in 1939 and 28,000 tons in 1929.

Another example of tremendous growth was in the financial report of one of the large chemical companies which stated that in 1939 plastics and synthetic resins provided its fourth most important outlet; others were food, pharmaceuticals, and glass and vitreous products in order named. In 1949 the same company's foremost outlet was plastics and synthetic resins!

The plastics industry has grown, but when one figures that there is steel capacity in the United States to turn out 99 million tons of ingots and the war time capacity for aluminum was 1.2 million tons, it is readily apparent that the volume for all plastics is still relatively small. At least any large replacement of materials with many plastics only for the reason of substitution would not be possible nor would it be desirable or practical. This leads to the statement that any use of plastics must be on a competitive basis where one or more of the engineering properties and quality of the plastic material justifies its use and here is where the engineer begins to play an important part.

I have already alluded to the fact that there are many types of resins and plastic materials, diverse in properties and end uses to which they are adaptable. Actually, a large portion of our products reach the ultimate user in forms not readily identifiable or thought of as a plastic product. For example, the material used for setting the lamp base in electric light bulbs, the cement used for setting brush bristles, the light switches and cover plates, electric iron handles, knobs on stoves, adhesive used in furniture, kitchen table tops, spectacle frames, fountain pens, insulation for house wiring, Christmas tree light wires, are only a few examples of items dependent upon plastics or resins not ordinarily considered a use of plastic materials in the minds of the public. One of the greatest advances in 1949 was the expanding use of plastic materials in the domestic refrigerator, yet this is not common knowledge except to those closely connected with the industry.

Conversely, there are a large number of items which can be readily identified as plastic products and many of these have come on the market within the last few years. Generally, these are produced by molding, extrusion, or by fabrication of sheet and film materials. In 1949 I have estimated that about 45% or about 35,000 tons of our materials were used in production of articles by these processes; the percentage was formerly much less.

Since many of these products reach the ultimate consumer as component parts of a complete item (an electric iron, vacuum sweeper, automobile, electric motor) labelling is not required, so far as the plastic is concerned. All types of molded products (including phenolics, urea and melamines, cellulosics, styrene, acrylics and nylon) and those made from sheet (including vinyls, polyethylene and cellulosics) make up the bulk of those products.

There have been misuses of plastics and these are only natural mistakes in the new, complicated and rapidly expanding field. Many were due to ignorance on the part of producers; they may not have taken time to check with material producers, producers were harassed by critical shortages of many types, plus crying demand for consumers end products. This led to demands by retailers, molders, fabricators and material producers for informative labelling.

Early in 1944 related industry associations as well as the plastics groups began to talk informative labelling. Many representatives of the industry spent considerable time in attempting to come up with an informative labelling program that would take care of the problem. It was originally suggested that a general description of commonly used plastics and their characteristics be supplied the molders for products on which a label could be used. Advertising programs and promotion plans

for a nationally accepted SPI special seal were drawn up by one or more public relations firms. The SPI originally was planning to supply labels but this was dropped in favor of a booklet on how labelling should be done. Some have proposed that a program of public education on plastics be set up to permit the consumer to identify plastics and know what they will and won't do. Frankly, the industry did have a job to do in improvement of products in general and no labelling program can take care of poor quality, especially if material design or workmanship is at fault. Of course many will argue with these conclusions but the fact remains that informative labelling only recently began to become effective, as the need was apparent and the molder and fabricator were sold on its value with the realization it helped to sell the goods.

Considerable has been said pro and con on the need for education of the public on the basic types of plastics and the use of common names to describe our materials. There is still some question on how much consumer education is required, although it now appears that the industry has reached that level of production volume and public interest that it may be worthwhile to promote the use of common names for different types of plastics.

It must be remembered that the ultimate consumer, for example the average housewife, is not much interested in plastics in their raw form, such as molding powder or sheets, but in the finished product, the customers commodity. Any labelling and merchandising program must be in terms of the article held in the hand. Let the highly technical language be left to discussions between the manufacturers and end product producers.

Advertising has accomplished a lot in establishing some brand or trade names as household by-words. Generally, these are assurances of value and bring the producer and consumer into some sort of a relationship that existed before days of mass production. However, the tremendous growth of the plastics industry has created many new wants in the 1950 economy and it is possible that there is now a greater need for a label because of the many new products being made available. While brand and trade names are assurances of value, they may not be enough. The people want to know which is the better and what are the features of one as compared to another. It is no longer a question of value or equal value but now one of better value. This has led to an increasing demand for labels and the far-sighted advertiser, merchandiser and producer of proprietary products has recognized the popularity of informative labelling and informative advertising. The success of promotions in the plastics industry alone certainly points out the value. Informative labelling is a good method of guarding against the consumer losing faith in advertising and feeling that he gets stuck in the purchase of some products. The label serves to strengthen the consumer reliance on the producer's good faith and enables him to determine for himself whether or not he will be satisfied with the product.

The material manufacturers recognize they have a responsibility to supply the industry full technical information on the materials; to translate the findings of their laboratories into language that can be readily used by those who use plastics; and not to recommend or knowingly offer materials for applications for which the material is not suited. Further, the material manufacturers are ready to advise the fabricator in development of their labelling program and advertising.

One of the objections to early labelling programs, at least in the manner suggested by certain industry groups, was the fact that it was somewhat negative in character. Often statements were suggested which had no connection with the product in question and even seemed ridiculous. A label cannot be designed for a material but must be designed for the product itself, although granted, characteristics of the material undoubtedly enter into the composition of the label.

No matter how adequate the label, nothing can substitute for a well-designed item using the plastic material most suitable for the product, and quality workmanship. For this product a label, if required at all, can be simple and brief. The SPI is now offering suggestions on label design such as use of trade names, generic names, what special care is required, what it does, its limitations, and information on how it is made, if directly related to its use.

Another advantage of an informative labelling program is that it can bring about an honest evaluation of the product by the producer at the time he is putting it on the market. The engineer and designer might be enlightened on the usefulness of the item, new outlets suggested by development of the label and changes demonstrated which will greatly improve the item in its public acceptance.

Each material producer has his own policy regarding the advertising of its own trade names and the use of his trade name by their customers. Some of those who do permit customers to use their trade names have set up procedures to guard the quality. One company that has been very successful in promotion of housewares has set up a procedure to evaluate the product before their trade name could be used on the label. However, the responsibility of the molder and fabricator is very clearly implied in the discussion of this procedure when the material supplier states that a product identified with this label will permit a shopper to buy with confidence with the knowledge that it has been satisfactorily designed to perform the functions for which it was intended. The material supplier can go no further because even though the right material is being used, the design is correct, and the customer uses it correctly, the final fabricator must perform his operations in a quality manner or else the product may not be suitable.

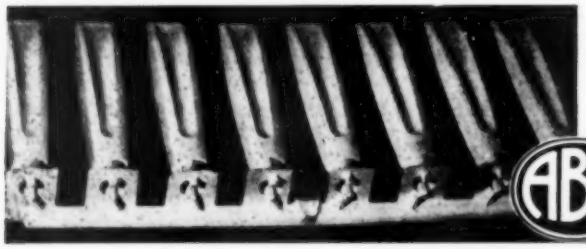
When the informative labeling programs were first presented, a good deal of lip service was given the idea but very little action. The molder often took the position that labels should be supplied by the material producers. We have already touched on the responsibility that can be rightfully taken by the material producers and that part which the end product producer must accept. The material people are ready and willing

(Please turn to page 9)

Rogers Plastic Corporation Offers Manufacturers' Molding Service and Ideal Distribution Arrangement

The management has been in the plastics industry since its pioneer days.

Rogers Plastic Corporation
West Warren, Mass.



Intricate Molds? The mold for the brush handles shown at the left (*courtesy Fuller Brush Company*) required not only intricate design, but ultra-smooth finish to meet today's mass production needs. Our sound engineering experience and modern equipment and methods are the answer. *WRITE FOR LITERATURE.*

PLASTIC MOLD DIES • INJECTION • COMPRESSION • TRANSFER • HOBS and HOBBING • DIE CASTING DIES • ENGINEERING and DESIGN SERVICE

ABA **A.B.A. TOOL & DIE CO. INC.** MANCHESTER, CONN. Phone: Man. 8552 - Cable: ABA

PLASTICS IN FABRIC COATING

BY D. S. PLUMB

Monsanto Chemical Co.

The coating of textiles is an old art. There have been reports of samples of fabrics apparently treated with resinous materials found in the remains of early civilization. Modern fabric coating in this country began when the old Hodgmen Rubber Company coated "india rubber" dissolved in kerosene on a cotton backing with a paint brush two decades before the discovery of vulcanization by Charles Goodyear. The big boom in this early endeavor came with the 1849 Gold Rush when water-proof ponchos were much in demand. With the discovery of vulcanization, the coating of textiles was off to a running start and there are still huge quantities of rubber coated fabrics produced annually.

The next developments in coated fabrics came much later in the next century with the discovery of nitrocellulose coating and parallel developments occurred in oil and, later, alkyd resin coatings. For a long time, the entire industry has depended on these three raw materials—rubber, oils and nitro-cellulose. The number of coaters has grown to close to 100 and the total annual yardage to hundreds of millions. The end products have served countless different industries—shoes, handbags, book binding, apparel, automobiles, novelties, shower curtains, baby pants, hospital sheeting, nursery goods, flotation gear, upholstery and oilcloth—to name but a few.

Since the war, the situation in textile coatings has changed abruptly. For a long time, the industry had seen few major changes. Equipment, raw materials and techniques had remained constant and, although fads have come and gone, the end products have remained pretty much the same. Now, however, the industry can almost be considered as facing a fight for existence. New raw materials, new equipment, new techniques and new products have been required and have been introduced with surprising rapidity. The sudden, almost fantastic, upsurge in volume of sale of unsupported film has presented the fabric coater with an undreamed of competitive situation calling for ingenuity and creative development of the highest type. Fortunately, the statistics show that, to a large extent, this challenge is being successfully met. The plastic industry responsible for the growth of film is compensating by providing the answer to the challenge in new plastic coatings.

Immediately following the war, the pent-up demand for coated fabrics was sufficiently large that the industry boomed along at a capacity rate. Since nitro cellulose coatings are the most important phase of the coating industry, exclusive of oilcloth which is a specialized product, the figures relating to nitro cellulose are of greatest significance. During 1946, 100,000,000 lineal yards of fabric were coated with pyroxylin consuming 70,000,000 pounds of nitro cellulose. In 1947 the figure was still high—99,000,000 yards and 72,000,000 pounds. In 1948, however, the handwriting on the wall began to appear with consumption dropping to 53,000,000 pounds of coating material and a total of 73,000,000 yards spread. In 1949 the trend was apparently continuing inexorably with the yearly consumption estimate at only 40,000,000 pounds and a yardage of less than 50,000,000.

During the same four years when pyroxylin was showing this alarming drop, the average production of vinyl film and sheeting jumped from 40,000,000 pounds in 1946 to an estimate of almost 140,000,000 pounds in 1949. Since an average figure for the various gages of film and sheeting produced might be guessed at .008", the total yardage of film produced would represent almost 300,000,000 square yards in 1949.

It has seldom been the case in American industrial history that one product can completely usurp the position of another. Invariably, the growth of a new material results in an expansion of the overall market for all the materials in that field. In the case of coated fabrics, this axiom is obviously true since, although pyroxylin and rubber coatings combined never exceeded 175,000,000 yards in a year and, even though the volume of oilcloth was added to this figure, film and sheeting have already reached a much higher level and there is still substantial production of all three types of coatings. Nevertheless, there is still a severe challenge to the future of the coating industry which must be met by new products.

Since the war, vinyl resins have been the main hope and are the controling factors in the present and future trends of fabric coating. The statistics are very illuminating on this point. During the same three years that pyroxylin lost 26,000,000 pounds of coating business, the consumption of vinyls increased from 11,000,000 pounds in 1946 to 17,000,000 in 1947 and 31,000,000 in 1948. Since these figures are reported on a net resin basis, which might average only 60% of the dry coating weight, the increase in these three years has approached 32,000,000 pounds, or somewhat more than the drop in pyroxylin. Thus, in spite of a gigantic expansion in film, much of which serves most of the end uses formerly reserved for coated fabrics, it is evident that the coating industry is more than holding its own.

Four types of Vinyl coating products and techniques are responsible for this vitality: calendered vinyl chloride, solution spread vinyl chloride or vinyl butyral, organosol coatings and pastes.

Since the earliest days, one of the major uses of coated fabrics has been upholstery. Today, upholstery is one of the major uses for heavy vinyl film but it is also a major use for coated fabrics as well. The old knife cutting solution method for manufacturing upholstery from pyroxylin has largely given way to calendered coating of vinyl chloride or high molecular weight copolymer on a cloth backing. The introduction of new calendering equipment on a large scale has removed most of the difficulties formerly inherent in calendered coating vinyl resins. Four-roll calenders built to withstand temperatures of 320 to 350°F. have replaced three-roll rubber calenders frequently inadequate for such products. Preheating or other treatments of the base fabric have improved adhesion to the point where it is no longer a problem. The resulting product, while similar in appearance to pyroxylin coated upholstery, is attractive, has perhaps ten times the abrasion resistance, is flame-resistant and free from the discoloration and embrittlement with age frequently associated with nitro cellulose coatings. Faced with the competition by film, many people have killed and buried coated fabrics for upholstery long ago. Films do have an advantage because of excellent surface characteristics which are difficult to obtain over a cloth backing film. They are potentially cheaper and are free from any adhesion problem. Coated fabrics, however, have higher tear strength, are more adaptable to many types of seating construction, are easy to work in some types of upholstery and are particularly suited for heavier duty applications. Calendered vinyl chloride upholstery products are definitely

an established product for some time to come.

Solution coatings have followed a different pattern. When vinyls first appeared, the tendency on the part of coaters was to follow a simple material replacement policy where vinyls could be justified in competition with pyroxylin. The wartime vinyl coatings were generally produced on rubber or pyroxylin type knife coaters using solutions of vinyl copolymers in methyl-ethyl ketone or cyclohexanone. Unfortunately, many of the advantages of vinyls are lost by this technique since the copolymers themselves are usually fairly expensive, the solvents are costly and difficult to remove and the more soluble copolymers are lacking in strength properties and low temperature flexibility.

Since the straight vinyl chloride or high molecular weight copolymers are only very difficultly soluble and then only in hot solvents, the future for solvent coated vinyls seems to be limited to a relatively few applications where the cost is not too important, the coater is not otherwise equipped and the fabric back performs a structural purpose in competition with film.

Solution coating with vinyl butyral has been an outstanding example of the ingenious product development needed by the coating industry. PVB was originally developed for the flexible inner layer in the safety glass sandwich and this is still its main use. During the war, techniques were developed for compounding PVB with small amounts of thermosetting resins which would cure the vinyl polymer in much the same way sulphur vulcanizes rubber. When suitably plasticized, the resulting composition can be solution coated on fabric and then cured, giving high adhesion to the cloth, excellent flexibility and softness of hand and equal durability to the other types of vinyl coatings. Large-scale use of such a product for such general purpose coated fabrics as rainwear, upholstery or book binding was doomed in peace-time by the high cost of the basic polymer but a study of the advantages of the composition showed the possibility of developing new markets. PVB itself is crystal clear with excellent age resistance. By topcoating it with a PVB solution into which has been ground a generous proportion of Santocel (a finely divided silica gel) it will produce a flat, tough, gloss-free surface. Butyral films have a lower modulus of elasticity, giving an excellent hand to the coated fabric. Finally, PVB is readily soluble in cheap solvents and can be coated on rubber or pyroxylin equipment without modification.

Considering these properties and recognizing high cost, it was decided to offer PVB coatings where they are a small portion of the overall cost of the finished product and where the resin's unique properties are completely used. The product selected for first consumer coating was a tablecloth where a thin (1½ mil) coating of clear PVB topped with a flat topcoat is applied over a printed cotton backing. The coating itself is essentially invisible. So far as is possible with a coated fabric, the coating has a minimum effect on the hand of the cloth. With these advantages, the cloth still performs as a functional coated fabric, being waterproof and stain-resistant. Backed by extensive promotional efforts, PVB coated tablecloths are now sold in major stores throughout the country, side by side with their cheaper competitors made from vinyl film and, apparently, have carved out a permanent market. A similar development in upholstery and drapery fabric only awaits the proper promotional effort.

The last two classes of vinyl coating materials are the organosols and pastes. Both are the answers to the problems of poor solubility of vinyl polymers on the one hand and the high cost of calendering equipment on the other. Neither product is particularly new—having been widely used in Europe for several years, but both are new to this country with paste technology particularly being in its infancy.

An organosol is a dispersion of vinyl resin in a mixture of plasticizer and inert diluent, with or without fillers, colors and other compounding ingredients. It is fluid at high solids concentrations and can be applied to a fabric on standard knife coaters. The differences in technique from pyroxylin are two-fold; first, being a dispersion instead of a true solution, the compounding and handling of organosols involve the usual dispersion problems of viscosity control, stability to agitation and temperature variations and the careful grinding of all solid ingredients. Second, when the coating is deposited on the cloth and the diluent driven off by heat, the sheet is not a continuous film but consists of a series of discrete particles. The dry coating must then be heated to a point where the plasticizer becomes an active solvent for the resin and the mass flows together to form a continuous film. Usually, about a minute at about 400°F. suffices so a short, hot zone in the drier of the coating machine is the only new equipment needed by the average coater.

Although figures are not available, organosol coatings probably make up the bulk of all vinyl coatings today and are still growing. One of the more recent developments is the perfection of organosol inks for screen printing on a coated fabric producing a product with all the style possibilities of uncoated textiles. Fabrics which are coated and then printed can finally be topcoated so that the print itself is completely protected from wear. The pattern of development in competition with film is similar to that of the heavy, calendered coatings. In many uses, coated fabrics provide functional properties superior to film, high tear strength, dimensional stability, ease of cementing so that film grows in the new markets and new coated fabrics hold the older markets. The style properties of organosol coatings in upholstery, for example, are at least equal to those of film so, whereas calendered vinyl upholstery may be taking the heavier duty products, organosol coated upholstery is maintaining its share of the lighter weight uses.

Pastes are the logical final development of organosols. A paste is the coaters dream—a fluid material requiring only heat to render it solid, with no volatile matter to be removed.

William J. Miskella, Professional Member of S. P. E., says:
"Operation of **SPIRA-VEYOR** at the National Plastics Exposition in Chicago interested many who saw feeding done from the floor! Also, they saw thermoplastics vibrate 'uphill' through the preheating section for delivery by gravity to the press at from 100 to 1000 lbs. per hour."

Manufactured by

THE MISKELLA *Infra-Red* COMPANY
MAIN OFFICE 7302 GRAND AVE., CLEVELAND 4, OHIO

Suggestion:—Investigate, for you'll surely discard your scoops, buckets, ladders, and overnight drying rooms in favor of this modern combination feeding and preheat method.

a paste is 100% solids. There is, thus, no limit to the coating weight deposited in one piece under the coating knife since there is no volatile to bubble off and blister the film. There is no large drier needed, no solvent recovery, no inflammable vapors. A paste is simply a dispersion of resin and other solid ingredients in the plasticizer as the only fluid. It is handled much like an organosol being deposited on cloth in one piece and heated rapidly to a high temperature to flux the mass to a continuous film. A great advantage of paste coatings is that, while still hot and almost fluid, they can be embossed with a cool roll under low pressure. The embossing is a perfect reproduction of the embossed roll pattern and the low pressure removes the problem of a clothy surface usually associated with high pressure embossed coated fabrics. In a space of four to six feet, a completed coating can be manufactured and the finished product can compete favorably in appearance with the best of embossed unsupported films.

Unfortunately, pastes have their problems. Since sufficient plasticizer must be used to provide coating fluidity, the composition is limited in hardness to rather soft coatings. The resins and other ingredients must be of very fine particle size and usually command a premium price. Severe and thorough grinding techniques are required to manufacture a smooth paste which wipes out most, if not all, of the economics otherwise present in this method. Aggressive product development is needed to enhance the position of coated fabrics and the paste technique seems to present an excellent opportunity.

The coating industry is at a turning point in its long history. Its competitive position is threatened as never before by the newer plastic materials and the new techniques are providing the trends for today's and tomorrow's coating industry. They will give it the opportunity to meet the challenge and to emerge stronger than ever.

Plastic Label

(Continued from page 6)

to work with fabricators in the design of labels. They have provided practically all of the technical information and promotion work to date. In 1948 it was recognized that something must be done if our industry was to move forward in the use of labels where a public service could be performed.

Accordingly, it was decided to promote a need for labels by educating the department store buyers and merchandisers of plastic products. A better knowledge of plastics products in the distributive field was believed to be necessary and a first step before the public could be expected to have sufficient information and be able to purchase with full knowledge of the product. It just seemed to be one of the things that should come first and could be handled relatively easily. We believe that the program instituted for education of merchandisers and buyers in the distributive field and their demands for informative labelling has done a great deal to improve the identification and merchandising methods for plastic products.

Now that plastics of most types are available in good quality and in quantity to satisfy the demand, competition is forcing the better engineering of end products and the adoption of informative labelling as part of the merchandising programs. The public, when given a free choice, will more often buy the labelled product and it is just good common sense for this industry to label when the customer demands it. Now that this improved labelling and merchandising has caught hold, it just keeps going.

PHILADELPHIA HOLDS PLASTICS FORUM

The April SPE meeting was held Monday, April 17, at Towne Scientific School, University of Pennsylvania. The speakers of the evening presented their individual topics as follows prior to the question and answer session:

Mr. R. R. Pierce of Pennsylvania Salt Company discussed the applications of synthetic resin adhesives to plant construction involving tile linings for vats, reaction chambers and exhaust stacks. The existing synthetics, largely of the phenolic type, are chosen for their specific resistance to acids and alkalies which would otherwise deteriorate mortar and basic concrete construction materials. The detailed discussion included slides to illustrate application to existing installations.

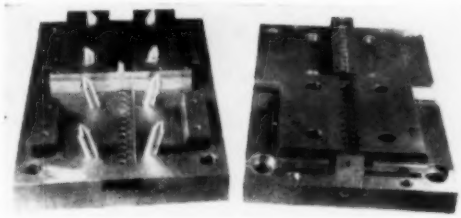
Mr. E. W. Fisher of Minnesota Mining and Mfg. Company discussed industrial applications of the elastomeric adhesives (i.e. for attaching tile). This discussion also included an introduction to strippable vinyl type protective films applied by spraying on to metal prior to drawing and punching operations for elimination of die marks. This company's product, Scotchtop, was illustrated with samples indicating the use of this cement-latex-water suspension for sealing and finishing rough surfaces such as cinder block.

Mr. R. P. Hopkins, Resinous Division, Rohm & Haas company, discussed the development and application of synthetic resin adhesives, primarily phenolic and resorcinol type, for bonding wood to wood and other dissimilar materials such as plastic surfacing and metal. Samples of the various welds were distributed, including metal to metal bonds which exhibit amazing strength.

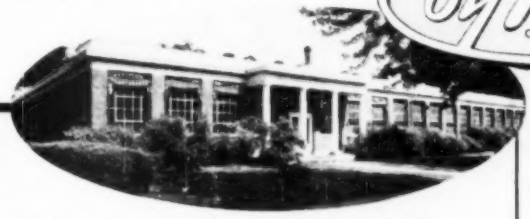
CONNECTICUT

"Nylon Molding" was the topic of Kenneth Persak's address at the May 12th meeting of Connecticut section at the Hotel Barnum, Bridgeport.

A split cavity combination mold with cavity plates actuated by cam pins.



DESIGNED AND BUILT . . . by Parker
CRAFTSMEN SINCE 1871



Representing Parker in
RHODE ISLAND • VERMONT
MASSACHUSETTS • MAINE
NEW HAMPSHIRE
M. A. SIEBERT CO.
43 Leon St., Boston 15, Mass.
GA — 70104

THE PARKER ORGANIZATION
with *Complete Facilities* for fine Mold Making . . . Machines and Craftsmen, is equipped to Engineer, Design and Build any plastic mold or to work to your specifications.

If you require the *FINEST QUALITY WORKMANSHIP* from start to finish . . . efficient prompt service, backed by years of *EXPERIENCE*

WRITE: The Parker Stamp Works, Inc. Dept. 6, 650 Franklin Avenue, Hartford, Conn. ASK FOR CATALOG No. 49

CHEMICAL NATURE OF PLASTICS THEME OF MOVIE SHOWN AT NEW YORK

By A. M. Merrill

A talk and film on "The Nature of Plastics," by William J. Connelly, assistant director of public relations, Bakelite Division, Union Carbide & Carbon Corp., featured the April 19 dinner meeting of the New York Section. Held at the Hotel Shelburne, the meeting was attended by some 45 members and guests of the group.

Mr. Connelly's talk was quite brief, and served as an introduction to the sound-color film made in England by Bakelite, Ltd. The plastics industry must now engage in selling practices, the speaker declared, and an educational program is needed to acquaint the public and other industries with the properties and advantages of plastics.

The film is of the educational type but instead of the conventional approach to the subject, stresses plastics as being man-made materials and shows how they are made. Molecular models and scenes of laboratory work are used to show how plastics molecules are built up, and the relationship between plastics, rubbers, and fibers.

Section president, Sam Silberkraus, Riverdale Laboratories, presided over the meeting and the brief business session preceding the talk. Reports were heard from secretary-treasurer George Baron, Ideal Plastics Corp.; membership and attendance committee chairman Bob Boucher, Durite Division of the Borden Co.; 1951 national conference committee co-chairman Stanley Bindman, Gemloid Corp.; and program committee chairman G. Palmer Humphrey, G. P. Humphrey Plastics. There was also a discussion period in which problems presented from the floor were answered by the Section's panel of experts.

Table favors were distributed through the courtesy of Ardee Plastics Co., and the meeting closed with a drawing for a door prize contributed by Empire Brush Co. (Harold Schwartz).

The next dinner meeting of the Section, was held on May 17 at the Hotel Shelburne, and featured a talk on "Alkyd Molding Compounds" by Michael A. Brown, Jr., sales promotion manager, Plaskon Division, Libbey-Owens-Ford Glass Co.

CARMAN ON LABELS AT CLEVELAND-AKRON

By R. E. Lally

The April meeting of the Cleveland-Akron Section was held at Aurora Inn, Aurora, Ohio on Monday the 24th. It was a combined cocktail and dinner meeting with the ladies in attendance. The general reaction to the first Ladies Night was excellent, and it was proposed that additional meetings of this type be held throughout the year.

Mr. F. H. Carman, General Manager of the Plastic Materials Manufacturers Association, Inc., spoke on "Informative Labeling in Plastics." Mr. Carman stressed the differences between the well established labeling in the textile field and the relatively poor labeling of many plastic articles.

Informative labeling should indicate the limitations of the article so that the consumer, by improper use of the item, will not become disillusioned as to the general qualities and applications of plastics.

Mr. Carman stressed again the general harm done to the trade by the lack of informative labeling, and showed the type of pamphlets issued by his association to encourage and point up the value of such labeling.

WHY

are we the outstanding mold makers for plastics?

BECAUSE we have been

Outfitters to Plastics Mfrs. Since 1911

servicing their individual requirements

with complete FACILITIES for

Engineering — Heat-treating
Design — Duplicating
Hob Making — Pantographing
Hobbing — Degating Equipment
Keller Work — Stan-Casts (Stainless Steel Castings)
Beryllium Pressure Castings
Special Machines For Plastics

Drop us a line on your next problem or Mold Requirement. No obligation.

STANDARD TOOL CO.
84 WATER STREET, LEOMINSTER, MASS.
OMNI PRODUCTS CORP. Export Distributors, New York, N. Y.

Plastic Marking Specialists
for
Molders and Fabricators

Polyethylene Marking In All Colors
Now a Specialty

We contract to TRADE MARK or DECORATE all THERMOPLASTIC and THERMOSETTING products.

You can take advantage of our outstanding engineered HOT STAMPING METHOD. This below the surface process, simulating engraving, surpasses other methods such as decals, silk screening and wiping-in. It is accomplished in any and all colors regardless of shape or size of the item. It is cleaner, has sharpness of outline, wears longer and is performed more economically. Our facilities are the largest in the country, and we contract to do any marking required regardless of quantity. We invite your inquiries and if pieces are available please include same.

Free Pick Up and Delivery in Metropolitan New York Area

ROLL LEAF ART STAMPING CO.
"MARKING SPECIALISTS"
3610 Palisade Ave. Union City, N. J.

GOOD DESIGN NEEDED IN BUYERS MARKET

By J. N. Kempf

The meeting of the Toronto Section of SPE was held in the Wallberg Memorial Building, University of Toronto, the evening of March 28th. The guest speaker of the evening was Mr. James V. Veverit. Mr. Veverit is president of James V. Veverit & Associates, Industrial Designers, Buffalo, New York. Mr. Veverit was accompanied by his Sales Manager, Mr. J. P. Healey.

The initial portion of Mr. Veverit's talk concerned the misuse of plastics and their use as substitute materials. He then illustrated the combination of plastics combined with other materials such as metal, showing how each particular combination added to the overall efficiency and attractiveness of the completed item. He stressed that good design, employing the proper materials in the right places is built in at the start—not hung on as an afterthought. With a predominant buyer's market at hand, people are looking for the best buy (including style, design, plus efficiency) at a price within reasonable means. They are anticipating something different and are ready to accept the new. Better functional design, plus engineering, plus new materials satisfy consumer hard-headedness and open new markets. The designer, engineer and molder—or manufacturer working together can achieve excellent results in producing products that do the job, yet cost less. The trend is definitely toward larger, unit size moldings and components requiring less assembly time. Raw material manufacturers have extensive research facilities and are producing new and better plastic materials which can be applied in many design applications. During his talk Mr. Veverit singled out many items from the large display explaining the reason behind the design and the advantages resulting from new or changed designs. Some of the samples included the following:

(a) A well designed urea knife case, compression molded in two parts. Attractively styled cases for the jewelry and the cosmetic field.

(b) Two designs of Polythene glasses cases molded in one piece and produced at less cost than the stitching on a leather case.

(c) Grills for air conditioning units employing removable center portions. Several companies could use the same grill design but install their own trade names or center design giving the grill, in each case, an individualistic appearance. Unit ceiling louvres of polystyrene, molded with luminescent materials were also illustrative of new, yet functional design trends.

Klippings From Kozy

By Walter Kozy

Lyon, Inc.

Our most cordial welcome to DR. LAVERNE E. CHENEY who has transferred from the Miami Valley section of the SPE into the Detroit section. Dr. Cheney is now with the Minnesota Mining & Mfg. Co. in the adhesives and coatings division. He was formerly research director for the Pollock Paper Corp. in Middletown, Ohio.

Laverne E. Cheney

Detroit members who know of La Verne Cheney from his many contributions to the technical literature should also know of his work for SPE. He is a former secretary and president of the Central Ohio section and has also served on the Editorial Advisory Board of the **SPE Journal.** In 1947 he was secretary to the National Advisory Board of the SPE.

We are always happy to welcome new members to our section. In this case we are both happy and proud.

You can't win. The news that Dr. Cheney was coming into the Detroit section was closely followed by the announcement that PAUL LILLIS, technical sales representative for the Bakelite Corp. and vice-president of the Detroit SPE group, was leaving.

Ex-Notre Dame football captain Lillis has left Bakelite to go with the Hamler Boiler and Tank Company in Chicago. The firm sells and distributes ammonia in bulk to the chemical and metallurgical industry.

The best of luck to you, Paul. Come back to see us often.

We can't close this column without reminding Detroit members about the summer outing. July 11 is the date and Orchard Lake Country Club the place. Remember that besides the meals and entertainment, there'll be a golf meet, a tennis tournament, and a diving and swimming contest with prizes galore.

N. W. PENN NOTES

By Paul Roche

The very impressive SPI show in Chicago has come and gone and the Northwestern Pennsylvania Section was well represented there, benefiting by the professional as well as the social features. Among those who stood up to be counted were Lloyd Moore (Applied Plastics), Bill Conroy and Chuck Cadalde (Erie Resistor), Jack Brecker and Vince Juliante (Louis Marx Co.), Bob Wilson (Monsanto), Kenny Erwin (Gen. Elec. Co.), Stanley Berg (Watson Stillman), Jens Pederson (Perry Plastics), and Paul Roche (NOSCO Plastics). We hold ourselves not responsible for failing to list those present but not recorded. Also present were several Erie citizens who are not SPE members, but should be.

As of May 1, 1950, Charles (Chuck) Williams became associated with Erie Die Company as a partner to R. C. Asmus. Chuck has for many years been connected with Erie Resistor Corp. as tool supervisor.

Erie Resistor Corp. is moving its plastics dept. to the plant previously occupied by Jarecki Mfg. Co. of Erie. The expanding facilities of Erie Resistor Corp. in meeting the resistor and condenser needs of the television market will take up the quarters formerly housing the plastics department. Louis Marx Co. has likewise taken over a portion of the Jarecki plant.

Ed Roberts of General Electric Co. does not confine his ingenuity to the field of plastics. He was recently granted a patent on a mechanical ice cube tray, now being produced for Gen. Elec. Co. by Inland Mfg. division of GM Corp., which overcomes 99% of the disadvantages embraced in previous designs.

The many friends of Stanley Berg, both locally and throughout the broad territories of the SPE, extend their sympathy over the loss of his father by death in April.

SPECIALTY PLASTICS AND T-V AT BALTIMORE

On Friday, April 28th, the Baltimore-Washington Section met at the Park Plaza Hotel. A movie in color, "Careers For Plastics," was presented. Television receivers were set up to watch the telecast given by Dr. R. K. Witt, of John Hopkins University. Many plastic items were displayed on this television show on plastics.

Clinton Rector of National Engineering Products Co., spoke on "Specialty Plastics" at the May 9th meeting.

S.P.E. Journal

Official Publication of The Society of Plastics Engineers, Inc.
409 Security Bank Building
Athens, Ohio

POSTMASTER: Forwarding and Return Postage Guaranteed.

MIAMI VALLEY NOTES

By John L. Russell

Miami Valley Section SPE members and their guests met on Thursday, May 4 at the Sheffield Corp. plant in Dayton. One of the larger industrial plants in Dayton, this company is a leading manufacturer of precision gauges, plugs, measuring instruments and inspection equipment.

Martin Kasch, our untiring director and program chairman handled the arrangements for this very interesting meeting. Dinner in the company cafeteria was followed by a talk on "Gauge Checking Devices with Demonstrations" by Mr. M. E. Cooper, Asst. Mgr. Gauge Sales, and a plant tour.

G. J. (Bill) Wilson inaugurated something new at this meeting when he outlined plans for future forum sessions designed to solve shop problems among SPE members.

Al Plimmer occupied the spotlight at the April 13 meeting. Besides acting as Co-chairman with Merle Nelson and as host for his company, the Cincinnati Milling and Grinding Machines, Inc., Al also won the Mystery Man Contest. Many thanks, Al for a very fine dinner and factory demonstrations of your method of making mold cavities. Miami Valley Section is very proud of your contribution to our Society.

Good luck to George Waite, who now is representing the Robbins Co., Attleboro, Mass. George is established in the Chicago office at Room 1200-01, 116 So. Michigan Ave.

The year's activities will be brought to an end with the annual golf and picnic outing, June 3, at the Terrace Park Country Club, Cincinnati.

MIDWEST VISITS 3-M

By D. H. Chambers

"Hat's Off" to Minnesota Mining & Mfg. Co. for a splendid job of building a tremendous business and a splendid job of entertaining guests.

A wonderful steak dinner followed by W. H. Bennett's history of 3M and J. H. Kugler's story of 3M Special Products Division, then down to Hastings and a plant tour of 3M's Special Products and Scotchlite Divisions, gave us an evening packed with enjoyment and wonder.

You will all be happy to know that S. K. Moxness is back on solids after his major operation.

KEL-F GOLDEN GATE TOPIC

By J. B. Smith

The Golden Gate section of the Society of the Plastics Engineers heard two interesting talks at the April 26 meeting.

Mr. Louis C. Rubin, Manager of Chemical Manufacture and former Director of Research of the M. W. Kellog Co. talked on "Kel-F, a new thermoplastic material."

Kel-F is trifluorochloroethylene, a fluorocarbon.

Mr. Rubin pointed out that the excellent dielectric strength, and the fact that it will not transmit vapor in film above .003 inch thick makes Kel-F superior to other thermoplastic materials for electrical applications.

Mr. Ralph Schuey, formerly of Bakelite Corporation talked on "Highlights in the History of Phenolic Plastics."

Mr. Schuey reviewed the problems and difficulties encountered from the beginning of phenolic production and molding to the present. He pointed out the reasons for the common practices in our present molding of phenolics and mold construction.

ST. LOUIS NEWS

By Otto & Kacalieff

The April meeting of the St. Louis section of the Society of Plastic Engineers was held April 25th at the Melbourne Hotel. The speaker for the evening was Mr. W. G. Whitehouse, Vice-President, in charge of sales, Crown Machine & Tool Company, Ft. Worth, Texas. Mr. Whitehouse's talk was very well illustrated and he brought out the point that "by addition of one of their pre-plasticizing units to any standard make of injection molding press, the output can be increased by about 50%."

Also on the program was Mr. F. R. Seavey of the Western Cartridge Company who gave a talk on "Products Development," the subject being the correct types of plastics to use to make a coating for a detonator wire.

Mr. R. S. McDorman, a member of the technical committee of the St. Louis section and an extrusion specialist with the Presstite Engineering Company presented a short talk on modern methods of extrusion. He explained the relative importance of the many variables which must be carefully controlled before successful extrusions can be produced. Of special interest were the dies he showed to the group showing how a die is designed to produce a certain molded cross-section. Sometimes the die design differs markedly from the design of the finished product. This is due to the fact that the material is limp as it is extruded and undergoes dimensional changes as it cools. About fifty samples of extruded shapes were displayed as an indication of the extreme versatility of the extrusion industry.

NEWARK MEETS

The Newark Section of SPE held their regular dinner meeting April 12 at the Military Park Hotel, Newark, New Jersey. About 75 members and guests heard Mr. H. M. Quackenbos, Jr., of the Bakelite Division, Union Carbide and Carbon Corporation, give a talk on "Recent Advances in Testing of Plastics," in which the need for additional physical tests for plastics was stressed. Mr. Quackenbos stated that ordinary tensile and flexural test results would have to be modified in view of field experiences. The time effect and notch sensitivity calculations will be required to simulate more closely field conditions in the testing laboratory

EASTERN NEW ENGLAND

The May meeting was held at the Hotel Vendome in Boston May 4th. The speaker for the evening was Mr. Roger Bascom of B. F. Goodrich Company, Mr. Bascom used as his subject "The Interdependability of the Synthetic Rubber Industry and the Plastic Industry." Mr. Bascom has had wide experience in both these fields and pointed out the close relationship of rubber and plastic chemistry and engineering.